System TEST

1. Adjust the compressed air pressure of the system, limiting it to a maximum of 10 bar. NOTE: you can use the brake pressure meter on the instrument board.

2. Check for all cylinder connections to be properly connected to the tubes all the way up to the drive valve.

3. Make sure the cylinder rods are not colliding with any component near the cylinder. To do so, you need to run them to check if there is any interference.

4. Make sure the rods are not scratched, painted or damaged. It may cause leakage after short period.

5. Check for the ends to be well fitted and if there isn't excessive slack on the bushings. NOTE: Excessive slack cause noise and malfunction in the system travel.

6. Make sure the compressed air pipe is fitted with filter. NOTE: The non-usage of filter may cause leakage or seizing provoked by dirt in the cylinders.

7. Use the lubricating oils recommended by FNA only.

Troubleshooting

FAULTS	CAUSES	SOLUTIONS
Leakage on either side of cylinder	• Worn or cut sealing repair parts • Valve leakage	• Substitute sealing or packing • Test valve
Head leaking	• Loosened bolts • Cut sealing rings • Cracked heads	• Retighten bolt nuts • Substitute sealing rings • Substitute heads
Tube connections leaking	• Misfit tubes • Misfit connections or no thread sealing	• Remove the tube and cut tip straight • Apply thread-sealing on the connections
Leakage between rod and packing	• Worn or cut packing • Scratched, painted or damaged rod	• Substitute packing • Substitute rod
Cylinder vibration when operating	• Assembly leakage • Lack of pressure • Unaligned assembly	• Repair leakage • Check system pressure • Align rod assembly
Cylinder can't move	• Disconnected tubes • Blocked valve	• Connect tubes • Check valve • **NOTE: to release cylinder, remove tube from the side where the pressure is**

Lubricating
OIL CHART

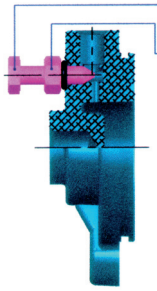
Atlantic:	Ideal AW32
Castrol:	Hyspin AWS32 or RD32
Esso:	Nuto 32
Iorga:	Pneumat 32
Promax:	Rock Drill or MA10
Shell:	Tellus 32 or Tonna 32
Texaco:	Spindura Oil CC22 or Regal 32

MULTI-APLICATION
Grease Chart

Bardhal:	General Purpose Grease
Castrol:	Castrol LM Grease 1
Esso:	Multipurpose Grease
Mobil:	Grease Z
Shell:	Retinax ou Alvânia EP
Texaco:	Multifak EP1

Speed
ADJUSTMENTS

For STANDARD pneumatic cylinders



① SPEED REGULATING SCREW

② LOCKNUT

A) TO ADJUST THE SPEED:1ST: LOOSEN THE LOCKNUT ②

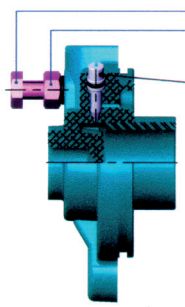
2ND: TURN THE SCREW ① : a) CLOCKWISE TO DECREASE

b) COUNTERCLOCKWISE TO INCREASE

3RD: TIGHTEN THE LOCKNUT ② .

Speed and Cushioning
ADJUSTMENTS

For pneumatic cylinders with DUAL CUSHIONING



① SPEED REGULATING SCREW

② LOCKNUT

③ STROKE CUSHIONING REGULATING SCREW

A) TO ADJUST THE SPEED: 1ST: LOOSEN THE LOCKNUT ② ;

2ND: TURN THE SCREW ① : a) CLOCKWISE TO DECREASE

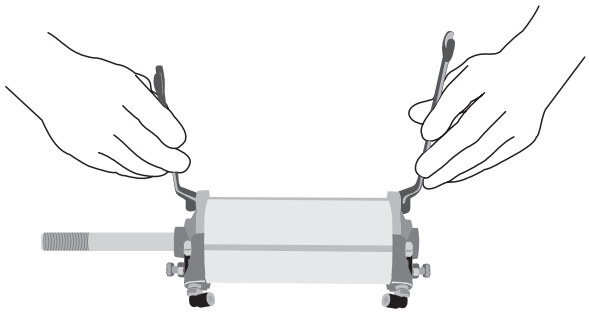
b) COUNTERCLOCKWISE TO INCREASE 3RD: TIGHTEN THE LOCKNUT ② .

B) TO ADJUST THE STROKE CUSHIONING: TURN THE SCREW ③

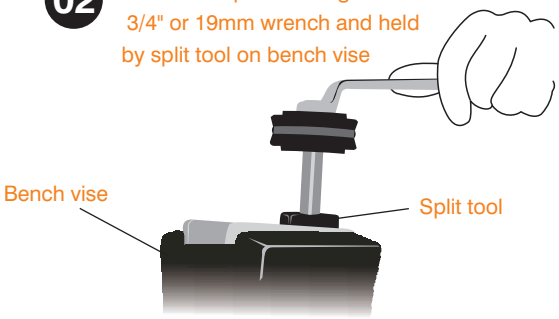
1) CLOCKWISE TO INCREASE CUSHIONING
2) COUNTERCLOCKWISE TO DECREASE CUSHIONING

STANDARD PNEUMATIC CYLINDER 2 ½" SUMMARIZED STEP BY STEP OPERATION

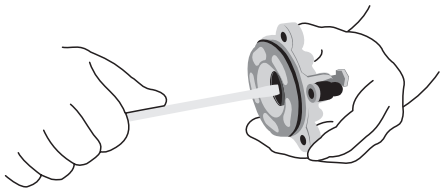
01 Disassemble using two 7/16" wrenches



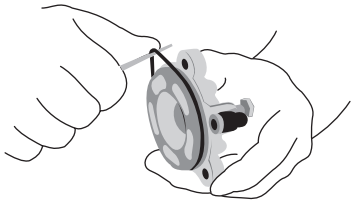
02 Loosen the piston using 3/4" or 19mm wrench and held by split tool on bench vise



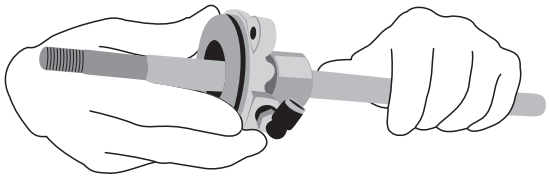
03 Remove worn-out packing



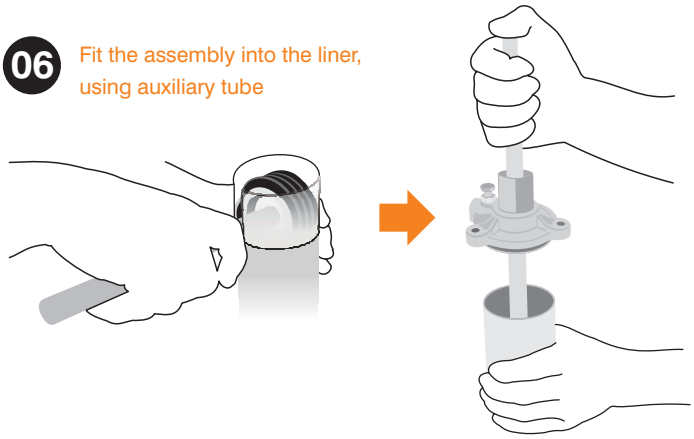
04 Remove rings from the heads



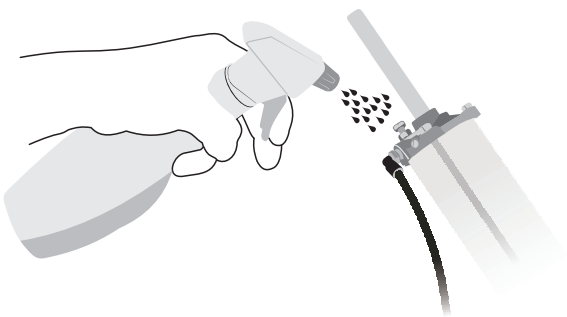
05 Fit the rod into the head through gasket nut

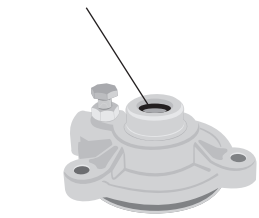


06 Fit the assembly into the liner, using auxiliary tube



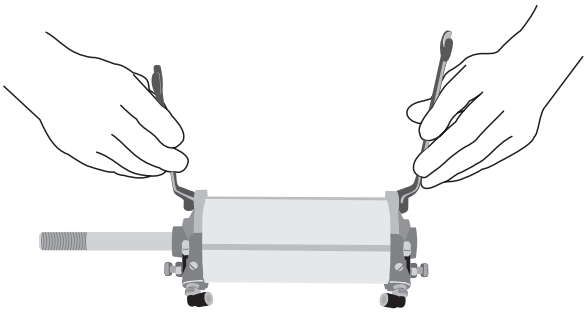
07 Carry out leakage test



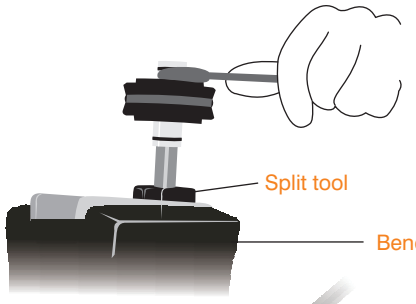


PNEUMATIC CYLINDER 2 1/2" WITH DUAL CUSHIONING SUMMARIZED STEP BY STEP OPERATION

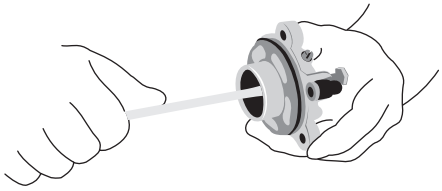
01 Disassemble using two 7/16" wrenches



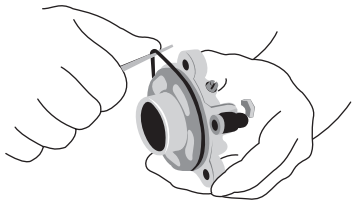
02 Loosen the piston, held by split tool on bench vise, using special tool or 21mm wrench



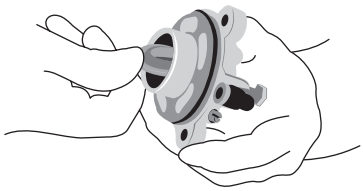
03 Remove worn-out packing



04 Remove rings from the heads

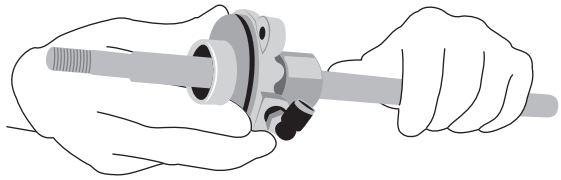


05 Fit the packing to the front head

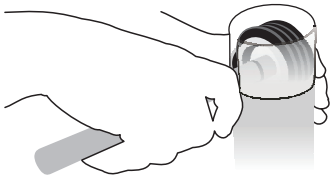


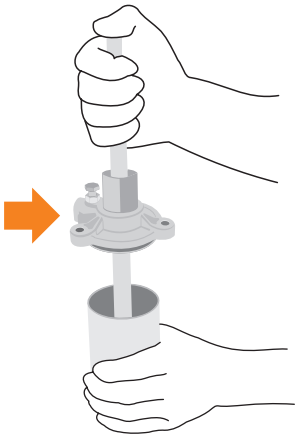
06 Fit the gasket to the cushioning bodies

07 Fit the rod to the head through the gasket nut

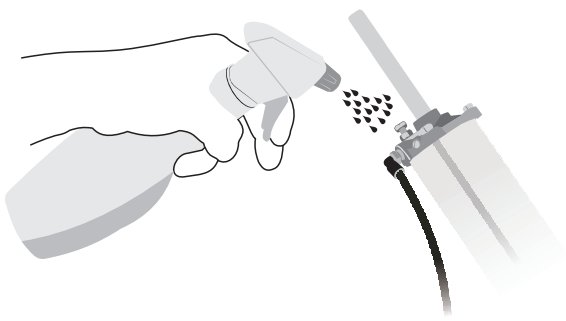


08 Fit the assembly to the liner, using the auxiliary tube





09 Carry out leakage test



Head internal ring